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**ON METHODS FOR ESTIMATING MANPOWER
AND ITS COMPOSITION.
THE IMPORTANCE OF LABOUR STATISTICS
FOR SECURING FULL EMPLOYMENT
OF THE POPULATION AVAILABLE FOR WORK
AND FOR TRAINING OF PERSONNEL**

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B.

ON METHODS FOR ESTIMATING MANPOWER AND ITS
COMPOSITION, THE IMPORTANCE OF LABOUR STATISTICS
FOR SECURING FULL EMPLOYMENT OF THE POPULATION
AVAILABLE FOR WORK AND FOR TRAINING OF PERSONNEL

by

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1. The ultimate productive force of human society is its manpower - workers, farmers, employees, engineering and technical personnel. Economic development of any country depends upon how fully and effectively her manpower is utilized. To be effective every governmental measure in planning or any other regulating of economic and social activities should proceed from regularly available information on the quantity, structure and efficiency of labour force. Another important prerequisite is the working out of adequate measures for an effective distribution of manpower. In many countries, however, the governments fail to pay proper attention to training steadily a sufficient number of highly skilled working force and specialists. Neither do they take enough care of to ensure full employment and better living standards for the population.

Today very few countries can rightly claim to have at their disposal properly organized labour statistics furnishing data on the quantity, structure, employment and territorial distribution of manpower, as well as on its working and living conditions. Information relating to the quantity, structure and distribution of manpower is usually made available once in 10 years by the censuses, though employment figures may vary considerably even from season to season within a single year. In some countries the figures relating to employment, labour turnover, wages and productivity are obtained solely at random inquiries and from reports submitted voluntarily by individual employers. Such figures are not always representative and cannot be relied upon in solving various problems relating to the rational use of labour. The many years of Soviet experience have shown that the estimates of the number and structure of manpower, based on the regular and obligatory reports submitted without exception by all establishments, building sites, offices and organizations and by the findings of censuses and inquiries are capable of yielding much more accurate and comprehensive data.

This report gives a brief survey of the contents, organization of labour statistics in the USSR, and their application. In the coming twenty-year period (1950 - 1960) the Soviet Union is planning to increase its material production about 5 times and labour productivity in certain industries by 4 - 6 times. This plan of the growth of production and productivity can be implemented only if an extremely reliable organization of labour is effected and if the whole of the country's labour force is utilized with maximum efficiency. Labour statistics have a part to play in the attainment of this goal and so its importance will still further.

2. In the USSR labour statistics consists of the following sectors:

- a) Statistics relating to the number of the working people, utilization of working time and to labour productivity;
- b) Composition of the Labour force;
- c) Wages and living standards;
- d) Training and improvement of qualifications of the personnel;
- e) Balance of labour reserves.

The indices obtained in each of the foregoing sectors of labour statistics are based on the system of indices adopted by the state economic plan for labour. Labour statistics yield scientifically valid data on the fulfilment of monthly, quarterly and annual plans, these data being simultaneously used as a starting point for the elaboration of plans for the future. Hence it follows that labour statistics are used as one of the state's weapons for managing national economy according to plan.

Before 1930 one of the functions of labour statistics was to report on the number and composition of the unemployed and on the measures to be taken for providing them with work. By 1930 unemployment had been abolished due to the planned economy. From that time on no unemployment subdivision is to be found in labour statistics.

3. In the USSR every enterprise, office and organization must submit reports covering employment and wages, either monthly, in manufacturing industries, or quarterly, in non-manufacturing establishments. Besides, annual reports are handed in, indicating average employment for the year and the employment figure at the end of the year. Also reported is the sum total of annual wages.

Collective farms are required to report annually on the available manpower and its utilization.

Every enterprise, office and organization is given a plan, based on the approved plan for output, specifying employment quotas in every personnel category (workers, employees, engineering and technical staff, service personnel, guards, etc.), as well as wages funds and productivity quotas (output per man). The reports made by the industrial organizations and establishments characterize the progress

made in the fulfilment of their plans.

Cited in the reports are the planned and actual employment figures, as well as the planned and actual amount of wages paid during the period under review (month, quarter, year). The said indices are available for all of the personnel, for the personnel engaged in basic work, and for the rest of the personnel. Thus, monthly reports deal separately with the personnel engaged directly in production, and with the non-production staff (accommodation services, utilities, kindergartens, training personnel, transport, capital repairs, etc.). The quarterly reports, apart from indicating the overall number of men employed in production cite separate figures not only for workers, but also for the engineering and technical staff, employees, attendance staff, guards and apprentices.

A quarterly report contains also data on the output per man in terms of value. Besides, on the basis of employment numbers and the total output, estimates are made of the productivity indices for different industries and areas. In a number of industries the employment figures in conjunction with data giving output in terms of natural product enable productivity indices to be expressed in the units of natural product (for instance, in coal and oil production, etc). Since any increase in labour efficiency depends on a better utilization of working time, manufacturing establishments point out in their accounts how effectively the time of manufacturing workers was utilized (how many man days were spent on the job, idle time periods, failures to report on work due to vacations, sick list, etc. were recorded). They are also expected to give data on how many new workers were hired for work and indicate their former occupations, as well as how many workers quit working giving reasons for dismissals. More accurate data concerning the utilization of working time are obtained through selective investigation.

Annual reports differ from the quarterly ones in that they comprise greater details. Thus, the data on the wages fund cover separately every category of the production personnel. The personnel of non-industrial organizations is covered according to a more detailed list of them. Annual reports contain data on the classification of wages (piece-work wages according to the kind of work, hourly wages according to the tariff scale, premiums, overtime and idle-time payments, vacation pays, long-service bonuses, etc.).

In compiling statistical reports the administration proceeds from standard methodological principles relating to the procedure of conducting primary registration (time-table data, performance sheets, etc.) and to the procedure for drawing up reports on labour.

Statistical accounts of enterprises and offices are submitted to the local statistical boards to be used by the governmental statistical agencies for drawing up a general report on employment and wages fund in different branches of national economy. Quarterly and annual data are available for all branches of economy, while the industrial branches are

converged also by monthly accounts. The annual data, based on annual reports, are elaborated in greater detailed classification of national economy branches and industries.

General statistical surveys are handed over to economic management bodies (Regional Economic Councils), to planning agencies, to Councils of Ministers in the various Republics and to local authorities. The USSR Central Statistical Board submits the overall statistical surveys for the country as a whole to the USSR Government and governmental planning agencies.

The monthly, quarterly and annual statistics enable people to be constantly informed of the amount of manpower employed today, whether it is effectively utilized by the enterprises and to take timely measures for giving help to enterprises for some or other reason lagging behind their production plans, and for finding work for these people who have been released from their jobs due to various causes.

4. To ascertain the structure of manpower the state statistical agencies are carrying out the following work:

a) Once in every two or three years calculations are made of the structure of manpower, taking into account sex, age and continuous employment record.

The obtained data contribute to a proper distribution of men and women in various industries and occupations, to the working out of manpower training programmes. They also reveal the effect which the fluctuations of manpower have on the number of men with a long employment record in a given establishment.

b) Twice in every five years inquiries are made regarding the workers employed in the key manufacturing industries, their occupations, rates of pay, forms of wage systems.

All occupations in such investigations are classified either as mechanical (attendants at automatic machines, workers using machines and mechanisms or non-mechanical. From a total employment figure for each trade, the numbers of women workers and apprentices are given separately.

Statistical accounts bring to light the scope of labour mechanization, show the effect of mechanization on the professional composition of manpower and the proportion of personnel employed in main and auxiliary departments, as well as in basic and auxiliary jobs. Statistical data thus obtained contribute to the development of training programmes, for workers of different trades and to the improvement of the structure of production organisation. They pave the way for more mechanization and automation, for the elimination of arduous labour and for the transfer of women from relatively hard and low-skilled jobs to those requiring less physical effort and higher skill.

c) For proper planning the training and distribution of engineering and technical personnel specialists with university and technical-school diplomas in various occupational

categories are registered every year. The following data are collected: the numbers of specialists employed in different occupations for planning; classification of specialists in accordance with sex, nationality and graduation-date categories; the numbers of specialists engaged in various branches of economy, pointing out how many of them are employed in production, science and management; number of specialists employed in various Republics and regions.

Statistical accounts also reveal the number of persons having neither university nor technical-school diplomas and keeping engineering and technical jobs in industrial and building organizations and in state farms.

d) Inquiries are also made annually into the number of persons holding administrative and management posts. This is necessary for the improvement of economic organization and for elimination of non-productive jobs, the economy in man-power being used for the new jobs in production of material value.

e) Following the 1959 reduction of the working day to 7 hours, or even to 4 - 6 hours in occupations where work is carried on underground or in harmful surroundings, monthly statistical accounts were introduced as a temporary measure to check the results of the transfer from longer to shorter hours. In 1961 an investigation was made into the distribution of all workers and employees and their working hours.

f) In the Soviet Union every worker and employee is entitled to paid vacations ranging in length from 2 to 4 weeks. In 1958 statistical data were gathered of the way the length of holiday period of all workers and employees is arranged.

5. Very important are the statistics relating to wages and living standards, for the amount of wages plus other incomes received by workers determine the level of labour productivity.

The statistics of wages and living standards are based on monthly, quarterly and annual reports on the fulfilment of plans of wages fund (see para. 3 and 4), on occasional investigations into the distribution of workers among various wage groups and wage payment categories, on random investigations into family budgets and on the estimates of total incomes received by the population.

The enquiries into the distribution of workers in various tariff and wage categories and systems are conducted simultaneously with the enquiries into the occupational composition of man-power. When statistical data are gathered separately for basic and auxiliary departments for each wage category

Total incomes of the population include wages together with various payments and benefits received from public funds, such as social insurance allowances, pensions, stipends, various gratuities, free school and university education, free medical service, child-care institutions, sanatoriums, rest homes, etc. In the USSR such payments and benefits amount to 27 per cent of a worker's wages.

involved (piece-rate or hourly) the adopted wage system, direct, progressive or bonus piece-rate, ordinary or bonus hourly wage is pointed out.

An account is kept periodically of the distribution of workers by groups according to the amount of wages. The resulting groupings characterize the level of wages received by workers, engineering and technical staff, employees, etc. in basic and auxiliary activities for all types of enterprises and offices in separate branches of national economy and in different areas of the country. Besides, random inquiries are conducted into the amount and structure of wages received by workers in most important occupations. Data of these reports and of enquiries made into the distribution of workers in various tariff categories and wage systems contribute to the rationalization of tariff and wage systems.

Investigations into the amounts and patterns of family incomes and into the pattern of public consumption in the USSR involve systematic budget studies in the families of 23,800 workers, employees, engineering and technical staff, 27,000 collective farmers and 400 pensioners. The investigations extend to the families of workers engaged in all major branches of national economy, the production being represented by the most important of the light and heavy industries. Low- and high-skilled workers enjoy a proportional representation in the inquiries. Budgets of many families are investigated throughout the year, sometimes even for a number of years. In this way budget dynamics in comparable families can be brought to light.

Individual family budget data are summarized by the CSB statisticians on the basis of everyday records of all incomes and expenses, which are being kept in the families. Short-programme results are available every month. The data of extended and full programmes are obtained quarterly and once in a year, respectively. Besides, the families under investigation are subject to incidental inquiries into their living conditions, employment of adult members, recreation and household accommodations, etc.

The enquiries into family budgets characterize living standards in various social groups and yield data for the calculation of total incomes of population, their real incomes, monetary balance, balance of labour reserves, public consumption funds, supply and demand for important agricultural products, and other important work.

6. A very important factor for the growth of labour efficiency is the level of occupational qualification of the manpower. In the USSR there exists an extensive state-sponsored system of vocational and technical schools, responsible for the training and improvement of manpower. Besides training and improvement courses are available directly within industry.

The schools are attended by juveniles and teen-agers for a period of one to three years. All expenses are covered by appropriations from the state budget. The training and improvement of manpower within industry is carried out in diffe-

rent ways: on the job, in work teams, and through a network of courses. The period of training may vary from one to six months.

The reports submitted to statistical agencies by vocational and technical schools once in three or six months provide information on the number and dynamics of the student body. They also classify students according to sex, age and previous education and point out how many students have received school-leaving certificates and what jobs they have had on leaving the school. An occupational classification of the graduates is also available. Industrial establishments, offices and organizations are obliged once in every six months to submit reports covering their activities in personnel training and improvement. The reports point out how many workers have been enrolled in training programmes during the period under review and how many of them had been or are visiting various educational institutions on a full-time or part-time basis.

7. Among the topics of labour statistics exciting considerable interest are the statistics of industrial accidents and that of appropriations to cover the expenses for all kinds of safety precautions. In the first reports information is given on the number of persons involved in accidents and on the number of man days spent out of work due to disablement. In the following reports data are given on the appropriations allocated for safety programmes from all available financial sources and actual expenditures with sums allotted for safety, ventilation, sanitary and welfare accommodations.

8. In the census years the above types of routine labour statistics are supplemented with detailed census data on the number, structure and distribution of manpower in various industries and territories. It is worth mentioning that the last 1959 census furnished, among other data, rather important and interesting figures relating to the educational standards of persons employed in manual and clerical jobs, both in urban and rural areas. The figures showed a marked improvement in the education of persons engaged in manual jobs. This is an evidence of the fact that the difference between manual and intellectual work is being gradually obliterated, analysed against the nationality background the respective figures reveal the growth of workers' and employees' education in various nationalities.

9. The balance of labour reserves is one of the most important aspects of labour statistics. It involves a complex of calculations proceeding from data made available by current and annual accounts, by occasional inquiries and by selective budget investigations. The manpower budget gives a characteristic of the quantity and structure of labour resources, their distribution among various industries and areas and reveals how much labour is available for a further expansion of production.

Manpower budgets of various Republics and administrative areas reveal whether manpower requirements can be met with local resources, whether a certain amount of manpower should be

brought in from other areas, or whether there are adequate resources of labour which can be transferred to other places. The plans for a redistribution of manpower between different Republics are elaborated on the basis of manpower budgets.

The manpower budget figures are composed for January 1 (when work in agriculture and seasonal trades is slack and for July 1 (when the reverse is true, i.e. the work in agriculture and seasonal trades is at its maximum). Also available are manpower budget average figures for the year. Comparisons between data relating to January 1 and July 1 enable one to judge of the scope of seasonal fluctuations in employment of manhood resources and to work out measures for setting up seasonal enterprises.

The manpower budget is drawn up in accordance with the following plan:

	Total	urban districts	rural areas
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1. All available labour:

- a) Able-bodied population available for work (men from 16 to 59 and women from 16 to 54 years old, except for disabled of the first and second groups and pensioners).
- b) Older persons continuing to work and employed juveniles (men 60 years old and more and women 55 and more and juveniles under 16).

2. Distribution of available labour force:

- a) Workers and employees, including those in various industries and trades.
- b) Collective farmers working on the farm:
- c) Individual farmers and handicraftsmen;
- d) Able-bodied students, receiving education on a full-time basis;
- e) Persons engaged in housework and their own auxiliary husbandry

The data on a budget account serve as a starting point for drawing up a perspective manpower budget. In drawing up perspective manpower budgets for the USSR and for its individual Republics and regions it is necessary to proceed from the contemplated increase in production and labour productivity as well as the perspective number of able-bodied population.

10. The system of labour statistics described in this report has been worked out and perfected during a long period of time. It should be noted especially that a serious demand for such statistics arose as soon as the state had embarked on a planned development of its economy and culture.

In tsarist Russia (before 1917) no labour statistics were in fact available, for the tsarist government had no interest in the problems of manpower employment. In the eyes of Soviet authorities the problems relating to better organization of labour and full employment of able-bodied population are second to none in importance in social and economic spheres. So, work in labour statistics was initiated immediately after the Soviet system was established. At first, this work was carried on within the statistical departments under the People's Commissariat for Labour, the All-Union Trade Union Council and the Supreme Economic Council. Statistical agencies were also set up under the Provincial Departments of Labour. June 15, 1918 saw the publication of the first issue of Labour Statistics Magazine sponsored by the People's Labour Commissariat. For coordinating the activities of those agencies in methodological matters the Council of Labour Statistics was created with membership, representing all the agencies concerned. From the day of its establishment in April 1919 and up to the present moment the Department of Labour Statistics has been a part of the Central Statistical Board. Republican and regional statistical boards also incorporate departments or groups carrying out work in labour statistics. The Labour Statistics Department under the USSR Central Statistical Board is responsible for methodological guidance in work related to labour statistics throughout the USSR, and elaborates standard sheets for primary labour and wages accounts in enterprises. It is engaged in current activities in labour statistics and supervises occasional statistical inquiries.

Individual USSR Republics, particularly Central-Asian Republics, the most oppressed in tsarist Russia, presented great obstacles in the organization of labour statistics. However, precisely these Republics stood in grave need of statistical data to enable social production and the training of national cadres to be improved and developed. Today, statistical work in all USSR Republics is carried on according to a single plan.

The experience in the organization of labour statistics furnishing data used for the planning of economic development of the USSR and its national Republics can undoubtedly be used to advantage by the newly developing countries, particularly by countries eager to introduce full employment of its able-bodied population at the earliest possible date and to create a permanent highly skilled working force and specialists for the purposes of material production and cultural construction.

